Bellwork: 5/2/13

Simplify each radical expression:

1) $\frac{5}{5-2\sqrt{5}} \cdot \frac{5+2\sqrt{5}}{5+2\sqrt{5}}$

Den. $25+10\sqrt{5}-10\sqrt{5}-4\sqrt{25}$ -20

5

$\frac{5(5+2\sqrt{5})}{5}$

$5+2\sqrt{5}$

2) $\frac{6-\sqrt{2}}{1+\sqrt{3}} \cdot \frac{(1-\sqrt{3})}{(1-\sqrt{3})}$

Den: $1-\sqrt{3}+\sqrt{3}-\sqrt{9}$ -3

-2

NUM: $6-6\sqrt{3}-\sqrt{2}+\sqrt{6}$

$\frac{6-6\sqrt{3}-\sqrt{2}+\sqrt{6}}{-2}$

Algebra 2 Name_____

Quiz: Simplifying Radicals Date_____Period_____

Simplify each expression. Make sure all answers are in SIMPLEST FORM!!!
Put answer on line provided

1) $\sqrt[3]{128x^5y^4}$

128 → 64 · 2 → 8 · 8 → 4 · 2 · 4 · 2 → 2 · 2 · 2 · 2

$4xy\sqrt[3]{2x^2y}$

2) $\sqrt[4]{64x^6y^{10}}$

64 → 8 · 8 → 4 · 2 · 4 · 2 → 2 · 2 · 2 · 2

$2xy^2\sqrt[4]{4x^2y^2}$

3) $\sqrt{4x^2y^3} \cdot \sqrt{8x^3y^6}$

4) $\dfrac{\sqrt[3]{81x^{10}y^8}}{\sqrt[3]{3xy}}$

5) $\left(6+2\sqrt{75}\right)+\left(-5-3\sqrt{108}\right)$

$6+2\sqrt{75}-5-3\sqrt{108}$

$6+10\sqrt{3}-5-18\sqrt{3}$

$1-8\sqrt{3}$

$\sqrt{75}$ $\quad$ $\sqrt{108}$

$25 \cdot 3$ $\quad$ $36 \cdot 3$

$5\sqrt{3}$ $\quad$ $6\sqrt{3}$

6) $\left(4-6\sqrt{18}\right)-\left(-3-7\sqrt{50}\right)$

$4-6\sqrt{18}+3+7\sqrt{50}$

$4-18\sqrt{2}+3+35\sqrt{2}$

$7+17\sqrt{2}$

$\sqrt{18}$ $\quad$ $\sqrt{50}$

$9 \cdot 2$ $\quad$ $25 \cdot 2$

$3\sqrt{2}$ $\quad$ $5\sqrt{2}$

7) $(4\sqrt{2}+5)(3-6\sqrt{2})$

$12\sqrt{2}-24\sqrt{4}+15-30\sqrt{2}$

-48

$-18\sqrt{2}-33$

8) $2\sqrt{6}(4\sqrt{3}-5\sqrt{2})$

9) $\frac{2}{4+\sqrt{2}} \cdot \frac{4-\sqrt{2}}{4-\sqrt{2}}$

Den: $16-4\sqrt{2}+4\sqrt{2}-\sqrt{4}$

-2

14

$\frac{2(4-\sqrt{2})}{14}$

$\frac{4-\sqrt{2}}{7}$

10) $\frac{3-\sqrt{3}}{2+\sqrt{5}} \cdot \frac{2-\sqrt{5}}{2-\sqrt{5}}$

Den. $4-\sqrt{25}$

-5

$=-1$

$\frac{6-3\sqrt{5}-2\sqrt{3}+\sqrt{15}}{-1}$

$-6+3\sqrt{5}+2\sqrt{3}-\sqrt{15}$